

Utility Monitoring in a School Building

Universal Input Data Loggers Offer Total Building Solution

A customer needed a solution to accurately monitor utility usage in a school building, totaled by floor. They needed to present this data in an easy-to-understand dashboard for each wing and as an aggregate total for the entire building. The client also had electric sub-panels on each floor, but they are separated from their floors' main utility rooms; these needed to be integrated into the dashboards as well to capture the full usage pattern.



Installation

The customer decided to outfit each floor's utility room with a [dataTaker DT80 Data Logger](#); a sophisticated [Universal Input data logger](#). The DT80 was connected to sensors measuring Chilled Water Flow, Hot Water Flow, and Gas Flow. The DT80 has a built in web server to display easy to create dashboards customizable by variable and mimic type, such as thermometer, dial meter, trend graph etc. Browser screen update rates are also variable so they can refresh as often as the operator likes; the mimics can be saved to the logger for convenience.

The DT80 is also connected to a Power Meter located in the electrical utility room -- because of the distance, this is connected via RS-485 Serial ModBus. This allows sensors to interface with the DT80 and the logger itself to interface with the power meter over a serial connection. This combination is ideal as [Modbus](#) has high immunity against the electrical noise typically present in the utility rooms.

Each floor's dataTaker DT80 units are connected by the LAN, and the client designates one unit as the "master" and the other DT80s as "slaves," allowing the master unit to give a totaled view of the energy usage on every floor. For example, the ground floor dashboard displays the Chilled Water Flow, Hot Water Flow, and Gas Flow, as well as Water usage and the electricity used. The DT80 represents this data in simple gauge format on the customer's PC, including gauges for flow, pressure, motor speed, etc.

Usage

The customer greatly increased their data accessibility immediately after installing the DT80s, and having a pictorial reference for these scattered gauges really helps the school's administration to closely monitor their utilities. The entire building's usage is recorded with pinpoint accuracy, while the operator is free to view the data in convenient dashboard display arranged by floor, wing, and aggregate total. Each floor's remote sub-panels are now included. The dataTaker DT80 based solution provided an ideal Utility Monitoring System.

The customer has additional options available with this solution for increased monitoring and convenience. With a DT80 already on every floor, future expansion to monitor other inputs is easy to accomplish. For example, measuring chilled and hot water temperature, utility room temperature, and filter status are easy to add to the existing system. The cafeteria could install its own DT80 since this room has its own data to monitor, including temperatures in refrigerators and freezers.

Another DT80 could be added in the boiler room to closely monitor this high-energy usage area; this is also ideal for EPA requirements to monitor and track stack emissions. Further, a separate load meter could be installed to split lighting off of the total electrical load. For a green solution, solar water heaters are one of the most popular new energy-saving devices being considered by schools--the DT80 can easily monitor temperatures inside and out, and also monitor the water flow through the solar panel itself.

For more information on the [DT80 Intelligent Universal Input Data Logger](#), additional remote monitoring solutions, or any other CAS Data Logger product, contact a Solution Analyst at **(800)-956-4437** for recommendations specific to your application or visit our website at www.DataLoggerInc.com.